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Providing sustainability competences to all engineering students at DTU?

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Societies increasingly face the need to address global sustainability challenges and an awareness of these challenges and needs is a key point in the education of future engineers. Due to their influence as builders of tomorrow's societies they should acquire an understanding of their influence on sustainability through their decisions as engineers. The DTU strategy states that sustainability must be an integrated part of every study programme. In the division for Quantitative Sustainability Assessment we have interpreted this and suggested that engineers should have competences at different levels. They must (1) know what sustainability is and how their decisions as engineers can affect sustainability, (2) be aware that there are methods and tools to assess the sustainability of their decisions, and (3) for those specialized in innovation and technology development, understand the principles of sustainability assessment and be able to apply tools for quantitative sustainability assessment.

Our vision is that all engineers graduating from DTU are taught a basic knowledge about sustainability and about methods and tools to assess the sustainability of their decisions. Three levels of learning have thus been defined:

1. Teaching in methods and tools for sustainability assessment targeted at the different technological domains at DTU, providing a background knowledge to students pursuing a career in other technical fields
2. More in depth education for student aiming to work with the development of technical solutions and therefore wishing a more in depth knowledge of the tools available to assess sustainability of technologies
3. Specialized teaching and education in principles and methods for sustainability assessment targeted at the student pursuing a professional career within the field

The proposed strategy embeds sustainability throughout the engineering curriculum, but is challenging. How to make room for the sustainability competences in an already packed curriculum?